Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1 . (Previously presented) A live vaccine comprising a pestivirus, wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated.

2. (Previously presented) The vaccine of claim 1, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

3. (Previously presented) The vaccine according to claim 2, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

4. (Currently amended) The vaccine according to ~~any one of claims 1 to~~ claim 3, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

5. (Currently amended) The vaccine according to ~~any one of claims 1 to~~ claim 4, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

6. (Currently amended) A vaccine according to ~~any one of claims 1 to~~ claim 5 comprising a BVDV pestivirus, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other BVDV strains, of said glycoprotein.

7. (Previously presented) A pestivirus, wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein with the proviso that the amino acids at position 297 and/or 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or Corresponding thereto in other strains, of said glycoprotein are not lysine.

8. (Previously presented) The pestivirus of claim 7, wherein said RNase activity is inactivated by deletions and/or mutations located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

9. (Currently amended) The pestivirus, of claim ~~7 or~~ 8, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

10. (Currently amended) The pestivirus according to ~~any one of claims 7 to~~ claim 9, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

11. (Currently amended) A BVDV pestivirus according to ~~any one of claims 7 to~~ claim 10, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other BVDV strains, of said glycoprotein.

12. (Previously presented) A nucleic acid coding for a glycoprotein E^{RNS}, wherein the RNase activity residing in said glycoprotein is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein with the proviso that the amino acids at position 297 and/or 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein are not lysine.

13. (Previously presented) The nucleic acid of claim 12, wherein said RNase activity is inactivated by deletions and/or mutations that are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

14. (Currently amended) The nucleic acid of claim ~~12 or~~ 13, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

15. (Currently amended) The nucleic acid according to ~~anyone of claims 12 to~~ claim 14, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

16. (Currently amended) A BVDV nucleic acid according to ~~anyone of claims 12 to~~ claim 15, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other BVDV strains, of said glycoprotein.

17. (Cancelled)

18. (Currently amended) A pharmaceutical composition selected from the group consisting of:

(i) a live vaccine comprising a pestivirus, wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated; ~~comprising a vaccine according to any one of claims 1 to 6,~~

(ii) a pestivirus, wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein with the proviso that the amino acids at position 297 and/or 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or Corresponding thereto in other strains, of said glycoprotein are not lysine; ~~and/or a pestivirus according to any one of claims 7 to 11,~~

(iii) a nucleic acid coding for a glycoprotein E^{RNS}, wherein the RNase activity residing in said glycoprotein is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein with the proviso that the amino acids at position 297 and/or 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein are not lysine; or ~~and/or a nucleotide sequence according to any one of claims 12 to 16~~

(iv) any combination thereof.

19. (Currently amended) A method for attenuating pestiviruses ~~characterized in that~~ wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated.

20. (Previously presented) The method of claim 19, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

21. (Currently amended) The method of claim ~~19 or~~ 20, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

22. (Currently amended) The method according to ~~anyone of claims 19 to~~ claim 21, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

23. (Currently amended) The method according to ~~anyone of claims 19 to~~ claim 22, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

24. (Currently amended) A method for producing a specifically attenuated vaccine ~~characterized in that~~ wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated.

25. (Previously presented) The method of claim 24, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

26. (Currently amended) The method of claim ~~24 or~~ 25, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

27. (Currently amended) The method according to ~~anyone of claims 24 to~~ claim 26, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

28. (Currently amended) The method according to ~~anyone of claims 24 to~~ claim 27, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

29. (Currently amended) A method for detectably labeling pestiviruses ~~characterized in that~~ wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated.

30. (Previously presented) The method of claim 29, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

31. (Currently amended) The method of claim ~~29 or~~ 30, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

32. (Currently amended) The method according to ~~anyone of claims 29 to~~ claim 31, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

33. (Currently amended) The method according to ~~anyone of claims 29 to~~ claim 32, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

34. (Cancelled)

35. (Currently amended) A process for the preparation of specifically attenuated pestiviruses ~~characterized in that~~ wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated.

36. (Previously presented) The process according to claim 35, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

37. (Currently amended) The process according to claim ~~35 or~~ 36, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

38. (Currently amended) The process according to ~~anyone of claims 35 to~~ claim 37, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

39. (Currently amended) The process according to ~~anyone of claims 36 to~~ claim 38, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

40. (Currently amended) A process for the preparation of specifically labeled pestiviruses ~~characterized in that~~ wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated.

41. (Previously presented) The process according to claim 40, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

42. (Currently amended) The process according to claim ~~40 or~~ 41, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

43. (Currently amended) The process according to ~~anyone of claims 40 to~~ claim 42, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346. as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

44. (Currently amended) The process according to ~~anyone of claims 40 to~~ claim 43, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

45-52. (Cancelled)

53. (New) A vaccine comprising the nucleic acid according to claim 12.

54. (New) A vaccine comprising the pestivirus according to claim 7.

55. (New) A method for the prophylaxis or treatment of a pestivirus infection in an animal comprising administering a vaccine of claim 1 to an animal in need of such prophylaxis or treatment.

56. (New) A method for the prophylaxis or treatment of a pestivirus infection in an animal comprising administering the pharmaceutical composition of claim 18 to an animal in need of such prophylaxis or treatment.

57. (New) A method for distinguishing pestivirus-infected animals from animals vaccinated with a specifically attenuated pestivirus, wherein said specifically attenuated pestivirus is attenuated according to the method of claim 19, comprising:

(a) obtaining a sample from an animal suspected of pestivirus infection or from an animal vaccinated with a specifically attenuated pestivirus;

(b) identifying the nucleotide sequence of a pestivirus within said sample; and

(c) correlating the presence of deletions and/or mutations of the E^{RNS} nucleotide sequence with a vaccinated animal and correlating the absence of said deletions and/or mutations with a pestivirus infection of said animal.

58. (New) A method for distinguishing pestivirus-infected animals from animals vaccinated with a specifically attenuated pestivirus, wherein said specifically attenuated pestivirus is attenuated according to the method of claim 19, comprising:

(a) obtaining a sample from an animal suspected of pestivirus infection or from an animal vaccinated with a specifically attenuated pestivirus;

(b) identifying a modified E^{RNS} glycoprotein of an attenuated pestivirus by the specific binding of monoclonal or polyclonal antibodies to E^{RNS} glycoproteins present in said sample, said glycoproteins being modified by deletions and/or mutations of at least one amino acid, whereby said monoclonal or polyclonal antibodies do not bind to unmodified E^{RNS} glycoproteins; and

(c) correlating the specific binding of said monoclonal or polyclonal antibodies with a vaccinated animal and correlating the absence of antibody binding to a pestivirus infection of said animal with the proviso that the presence of pestiviral material in said animal and/or said sample is established otherwise.

59. (New) A method for distinguishing pestivirus-infected animals from animals vaccinated with a specifically attenuated pestivirus, wherein said specifically attenuated pestivirus is attenuated according to the method of claim 19, comprising:

(a) obtaining a sample from an animal suspected of pestivirus infection or from an animal vaccinated with a specifically attenuated pestivirus;

(b) identifying an unmodified E^{RNS} glycoprotein of a pestivirus by the specific binding of monoclonal or polyclonal antibodies to E^{RNS} glycoproteins present in said sample, said glycoproteins not being modified by deletions and/or mutations of at least one amino acid, whereby said monoclonal or polyclonal antibodies do not bind to modified E^{RNS} glycoproteins; and

(c) correlating the specific binding of said monoclonal or polyclonal antibodies with a pestivirus infection in said animal and correlating the absence of antibody binding to a vaccinated animal with the proviso that the presence of pestiviral material in said animal and/or said sample is established otherwise.

60. (New) A method for distinguishing pestivirus-infected animals from animals vaccinated with a specifically attenuated pestivirus, wherein said specifically attenuated pestivirus is attenuated according to the method of claim 19, comprising:

(a) obtaining a sample from an animal suspected of pestivirus infection or from an animal vaccinated with a specifically attenuated pestivirus;

(b) determining the absence or presence of RNase activity of a glycoprotein E^{RNS} within said sample; and

(c) correlating the absence of RNase activity of glycoprotein E^{RNS} with a vaccinated animal and correlating the presence of said activity with a pestivirus infection of said animal.

61. (New) A method for distinguishing pestivirus-infected animals from animals vaccinated with a specifically attenuated pestivirus, wherein said specifically attenuated pestivirus is attenuated according to the method of claim 19, comprising:

(a) obtaining a sample of polyclonal antibodies from an animal suspected of pestivirus infection or from an animal vaccinated with a specifically attenuated pestivirus;

(b) identifying any specific binding of said polyclonal antibodies to unmodified glycoprotein E^{RNS} or glycoprotein E^{RNS} as modified by deletions and/or mutations of at least one amino acid; and

(c) correlating the binding of said polyclonal antibodies to unmodified glycoprotein E^{RNS} with a pestivirus infection and correlating the binding of said polyclonal antibodies to glycoprotein E^{RNS} as modified by deletions and/or mutations of at least one amino acid with a vaccinated animal.